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**GB 1115381**  
**GB 1080645**  
**GB 0806342**

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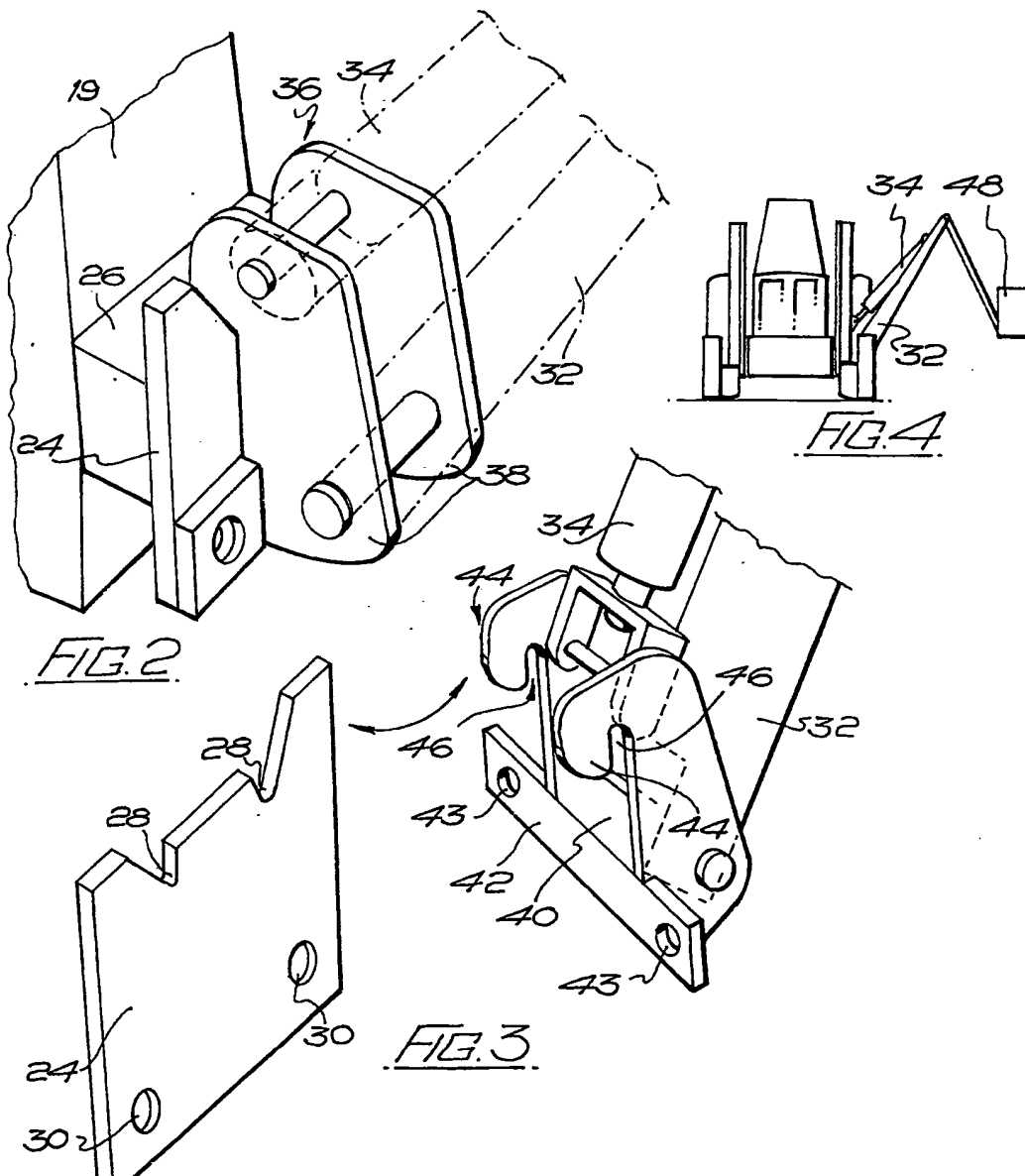
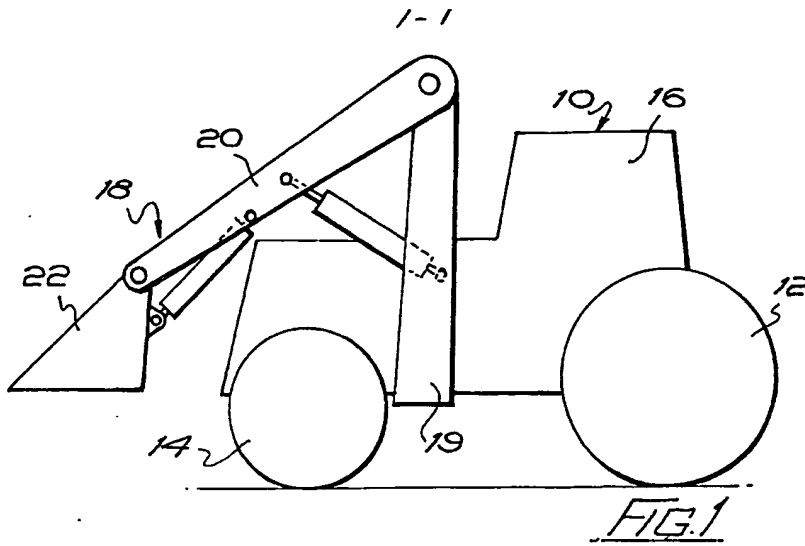
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(54) **Improvements in the mounting of agricultural implements**

(57) The invention provides that an agricultural tractor provided with a front loader has a side working implement such as a hedge cutter or rotary mower mounted directly on the front loader frame at a position in the centre section of the tractor.

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## SPECIFICATION

**Improvements in the mounting of agricultural implements**

This invention relates to the mounting of  
5 agricultural implements on agricultural tractors.

In particular, the invention is concerned with the mounting of implements known as flail type hedge cutting apparatus or rotary mowers, and when the expression "implement" is used hereinafter such  
10 apparatus or mower is intended. It is to be pointed out however that the invention has general application to any agricultural implement requiring side mounting on an agricultural tractor.

Normally, in the mounting on a tractor of a flail  
15 type hedge cutter or a rotary mower which comprises a manipulable boom and a cutting head, the mounting is to the rear of the tractor so that the boom essentially extends laterally of the tractor fore and aft axis. The boom is manipulated to permit the  
20 effective cutting of the sides and tops of hedges, whilst the tractor travels lengthwise of the hedge.

The mounting of the implement to the rear of the tractor creates a number of problems including that the tractor driver must repeatedly turn his head and  
25 look in a rearwards direction to observe the cutting, which mitigates against effective steering and driving of the tractor.

It is of advantage therefore to mount the implement in the mid-section of the tractor, but in  
30 the past this has been difficult because usually the mid-section of an agricultural tractor traditionally is given over to the mounting of a tractor front loader which is a frame with a pivot arm structure extending forwards of the tractor, and provided on  
35 the outer ends of the arm structure with a loader bucket or other working device.

The mounting of the flail type hedge cutter or rotary mower when mounted mid-section therefore  
40 had to be on an available space on the tractor, normally to the rear of the tractor.

The present invention seeks in a simple and effective manner to overcome the difficulties, and provides that the implement is mounted directly on  
45 the tractor front loader.

A number of advantages immediately result from this construction, the first being that there is no requirement to remove the loader for the mounting of the implement, and secondly the restriction on  
50 mounting space which arises when the implement is mounted directly on the tractor, no longer arises.

In one specific embodiment, the implement may comprise a manipulable boom in a number of pivotally interconnected sections, and a  
55 manipulating hydraulic ram, with the ram and boom pivotally mounted on a bracket or yoke, the bracket or yoke being readily connectible to a mounting plate welded or otherwise secured directly on the loader frame to one side of the tractor at the mid-section thereof.

The bracket or yoke may be mounted on the plate  
60 by hooking to a top edge of the plate, followed by the bolting of the lower edge of the plate to the yoke by the provision of appropriate bolting apertures.

Thereby, connection and disconnection of the

implement is simple.

For the powering of the implement, the ram means may be connected to a suitable coupling in the tractor hydraulic power system, such hydraulic power system also serving as the means for driving  
70 the flail type hedge cutter or rotary mower.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying diagrammatic drawings, wherein:—

Fig. 1 shows a side view of an agricultural tractor  
75 provided with a loader;

Fig. 2 shows in perspective elevation a part of the loader of the tractor as shown in Fig. 1 with a hedge cutter attached thereto;

Fig. 3 shows in perspective elevation a portion of the arrangement shown in Fig. 2, but with the hedge  
80 cutter disconnected; and

Fig. 4 shows the tractor with loader and hedge cutter attached, in front elevation.

Referring to the drawings, an agricultural tractor  
85 of conventional form is indicated by numeral 10, and is provided with large rear wheels 12 and small front wheels 14. The tractor cabin for the operator is indicated by 16, and the tractor as shown is provided with a loader apparatus 18. The loader  
90 apparatus comprises an upright frame 19 and pivotable loader arms 20. The loader 18 is connected to the tractor mid-section, and the frame 19 extends upwardly and at their outer ends the arms 20 support a loader bucket 22.

The arrangement described is conventional, and when one normally mounts a hedge cutter on a tractor as described, it is conventional to connect  
95 the hedge cutter to the rear of the tractor.

With this invention however the hedge cutter is  
100 connected directly to the loader at its frame 19, and as shown in Figs. 2 and 3 this is achieved in the example by welding a plate 24 through a suitable bar 26 to the loader frame 19. The plate will lie in a vertical plane in use, and its top edge is profiled to provide hooking notches 28, whilst at the lower end  
105 the plate is provided with bolting apertures 30. An advantage of coupling the implement to the loader is that the implement is supported by a structure (the loader structure) which is connected to the tractor at both sides and therefore the implement is supported at both sides of the tractor, reducing the tendency for the implement to make the tractor  
110 unstable.

To adapt the hedge cutter for coupling to this  
115 plate, the boom arm 32 and the end of the manipulating ram 34 are pivotally connected to a yoke 36. The yoke 36 is made of spaced plates 38 and a rear plate 40, and provided with an anchoring bar 42. The anchoring bar 42 has bolt apertures 43  
120 which align with the apertures 30 in the fixing plate, whilst the side plates are provided with hook formations 44 defining notches 46 which as shown in Fig. 2 engage the notches in the fixing plate.

It is a simple matter to couple and uncouple the  
125 fixing plate and the yoke in that the implement can be free standing by supporting it on the ground via its cutting head 48 so that arm 32 and ram 34 can be manipulated by hand so that the respective hooks 44 and notches 46 engage and then the fixing bolts